

Pharmacology and Toxicology

USSR

UDC 591.477.4

CHECHULIN, A. S., SHAPIRO, A. M., VAL'TSEVA, I. A., and TALYZIN, F. F., First
Moscow Medical Institute im. I. M. Sechenov

"Some Data on the Effect of Central Asian Cobra Venom on Blood"

Moscow, Nauchnyye Doklady Vysshey Shkoly, Biologicheskiye Nauki, No 7, 1972,
pp 58-59

Abstract: Examination of the peripheral blood of animals 20 to 40 min after subcutaneous injection of sublethal doses of Central Asian cobra venom revealed an increase in the number of leukocytes, reticulocytes, and especially immature forms of erythrocytes. However, the resistance of the erythrocytes was unaffected. This suggests that hemolysis did not occur under experimental conditions, for the permeability of the membrane of these cells did not increase in response to the neurotropic toxin.

USSR

VAL'TUKH, K. K., NIKITENKO, M. N.

UDC: 8.74

"Algorithm and Program for Approximate Realization of a Multisectoral Dynamic Model With Object Function of Well-Being With Consideration of Accumulation of Durable Goods"

V sb. Algoritmy i programmy realizatsii narodnokhoz. modeley (Algorithms and Programs for Realization of National Economic Models--collection of works), Novosibirsk, 1971, pp 93-115 (from RZh-Kibernetika, No 5, May 72, Abstract No 5V528)

[No abstract]

1/1

USSR

UDC 678.06-412:677-521.01:53

SHISHKO, V. I., BARKOVSKIY, V. V., ANRASHIN, YA. D., ISENIN, V. B., YAKUSOV, B. V., ZAKHAROV, V. N., and VALULENKO, YE. G.

"Glasstextolites Based on Non-Woven Fiberglass Reinforced Materials"

Moscow, *Plasticheskiye Massy*, No 3, 1972, pp 70-73

Abstract: Properties are described of the binding, containing non-woven fiber-glass materials and glasstextolites made from them for structural materials, and electrical insulation. It was established that it is economically feasible to use the non-woven materials in production of glasstextolites for various purposes. Production of non-woven fiberglass reinforced materials from non-twisted glass thread facilitates the production expansion of the glasstextolites and reinforced plastics, both in regard to the volume and variety of materials. One of the most promising materials, in this area is the VPR-10 reinforcing material consisting of two glass laminated systems, in which 16 layers are overlaid at 90°, stitched with glass thread.

USSR

UDC 629.7.036.3:533.6

VALUYEV, N. I., DINEYEV, Yu. N., SIMONOV, V. I.

"Some Results of an Experimental Study of the Operation of a Small-Scale Axial Turbine With a Bladeless Nozzle Device"

Sb. nauch. tr. Kiyev. in-t inzh. grazhd. aviatsii (Collection of Scientific Works of Kiev Institute of Civil Aviation Engineers), 1971, No. 2, pp 120-122 (from RZh - 34. Aviatsionnyye i raketnyye dvigateli, No 9, Sep 72, Abstract No 9.34.59)

Translation: Comparative results are presented on tests of two small-scale axial turbines with bladeless nozzle devices and having the same mode and geometrical parameters but differing in the shape of the flow-through portion of the spiral chambers. 3 ill., 3 ref. Resume.

1/1

- 191 -

1/2 024

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--COMPARISON OF CHARACTERISTICS OF TRANSDUCERS MADE OF DIFFERENT
MAGNETOSTRICTIVE MATERIALS -U-

AUTHOR--(03)-VALUYEV, V.N., GANEVA, L.I., GOLYAMINA, I.P.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, AKUSTICHESKIY ZHURNAL, VOL 16, NO 1, 1970, PP 32-36

DATE PUBLISHED-----70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--ELECTRIC TRANSFORMER, NICKEL, COBALT IRON ALLOY, IRON ALUMINUM
ALLOY, FERRITE, MAGNETOSTRICTIVE MATERIAL, ULTRASONIC EQUIPMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0287

CIRC ACCESSION NO--AP0106928

STEP NO--UR/0046/70/016/001/0032/0036

UNCLASSIFIED

2/2 024

CIRC ACCESSION NO--AP0106928
ABSTRACT/EXTRACT--(U) GP-9-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. A COMPARATIVE STUDY HAS BEEN MADE OF TRANSFORMERS MADE OF NICKEL, PERMENDUR (IRON COBALT ALLOY), ALFER (POSSIBLE, AN ALUMINUM IRON ALLOY), AND FERRITE WITH CORES OF IDENTICAL FORM AND DIMENSIONS. THE OPERATING REGIMES OF THE TRANSFORMERS CORRESPONDED TO THEIR USE IN ULTRASONIC TECHNOLOGICAL DEVICES OF LOW POWER. THE EMITTERS WERE COMPARED BOTH BY VALUE OF ELECTROACOUSTIC EFFICIENCY FOR LOADING ON LIQUID AND FOR EFFICIENCY IN CONDITIONS OF NEGLIGIBLY SMALL LOADS. THE CORES OF THE EMITTERS MADE OF DIFFERENT MATERIALS WERE IDENTICAL IN SHAPE AND SIZE. THE RESONANCE FREQUENCIES WERE IN THE RANGE 23 TO 28 KILOHERTZ, DIFFERING IN THEIR DEPENDENCE ON THE DIFFERENCE IN VALUE OF THE ELASTIC CONSTANTS. THEY WERE ASSEMBLED FROM SHEETS OF NICKEL 0.1 MM THICK, AND OF PERMENDUR AND ALFER SHEETS 0.23 MM THICK. THE THICKNESS OF THE ENSEMBLE WAS 20 MM. THE FERRITE CORES WERE MONLITHIC. ASSEMBLY OF THE CORES MADE OF NICKEL AND PERMENDUR WAS CARRIED OUT WITH HEAT TREATMENT ACCORDING TO THE STANDARD SET FOR INDUSTRIAL EMITTERS AND WITH SUBSEQUENT IMPREGNATION WITH EPOXY RESIN BASED CEMENT.

UNCLASSIFIED

USSR

UDC 534.232

✓
VALUYEV, V. N., GANEVA, L. I., and GOLYAMINA, I. P., Acoustics Institute
of the USSR Academy of Sciences

"Comparison of Characteristics of Transducers Made of Different Magneto-
strictive Materials"

Moscow, Akusticheskiy Zhurnal, Vol 16, No 1, 1970, pp 32-36

Abstract: A comparative study has been made of transformers made of nickel, Permendur [iron-cobalt alloy], Alfer [possibly, an aluminum-iron alloy], and ferrite with cores of identical form and dimensions. The operating regimes of the transformers corresponded to their use in ultrasonic technological devices of low power. The emitters were compared both by value of electroacoustic efficiency for loading on liquid and for efficiency in conditions of negligibly small loads.

The cores of the emitters made of different materials were identical in shape and size. The resonance frequencies were in the range 23 to 28 kilohertz, differing in their dependence on the difference in value of the elastic constants. They were assembled from sheets of nickel 0.1 mm thick, and of Permendur and Alfer sheets 0.23 mm thick. The thickness of the

USSR

VALUYEV, V. N., et al., Akusticheskii Zhurnal, Vol 16, No 1, 1970, pp 32-36

ensemble was 20 mm. The ferrite cores were monolithic. Assembly of the cores made of nickel and Permendur was carried out with heat treatment according to the standard set for industrial emitters and with subsequent impregnation with epoxy-resin based cement.

Acc. Nr: **AP0051969**

Ref. Code: **UR0289**

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i Meditsiny, 1970, Vol 69, Nr 3, pp 92-95

CHARACTERISTICS OF A NEW TRANSPLANTED TUMOUR OF THE RAT OVARIUM

I. M. Valuyeva

Institute of Experimental and Clinical Oncology, Academy of Medical Sciences of the USSR, Moscow

A new transplanted tumour of the rat ovary was obtained after transplantation of the ovary tumour developed from a graft of the ovary in the spleen of the castrated mongrel rat. The tumour is transplanted into the male and female rats at the age of one month in 80-90 per cent of cases. The tumour shows granulosa-cell structure and possesses reactivity to hormonal and chemotherapeutic preparations.

REEL/FRA
19820456

28c

Acc. Nr: **AP0052306**

Ref. Code: **UR0233**

PRIMARY SOURCE: *Fiziologichnyi Zhurnal*, 1970, Vol 16, Nr 1, pp 29-33

COMPARATIVE STUDY OF BLOOD SERUM PROTEINS OF MARROW AND PERIPHERAL VENA IN ADRENALECTOMIZED DOGS

Valueva, T. K.

Institute of Endocrinology and Metabolism, Kiev

Summary

It is shown that in normal dogs the differences of total protein content and distribution of proteins in salting out zones between the blood serum of peripheral vena and marrow are insignificant and irregular.

Definite differences between the blood serum proteins of marrow and peripheral vena were observed in the adrenalectomized dogs under development of crisis of adrenal acute insufficiency as a result of the fact that the operated dogs were deprived of the substitutive therapy. Concentration of the total protein, albumin, total globulins was

1/2

REEL/FRAME
19820876

2

AP0052306

lower in the blood serum of marrow. With equal content gamma-globulins the ratio gamma-globulins (total globulins was higher in the marrow serum. In some cases a higher level of gamma-globulins, salted out under 18% concentration of ammonium sulphate, was detected in the blood serum of marrow.

A conclusion is drawn that marrow can be a source of gamma-globulins under insufficiency adrenal cortex function.

2/2

ndh

19820877

1/2 010
TITLE--GRAPE POLYPHENOLS -U- UNCLASSIFIED PROCESSING DATE--16OCT70
AUTHOR-(04)-BOKUCHAVA, M.A., KNYAZEVA, A.M., VALUYKO, G.G., FILIPPOV, A.M.
COUNTRY OF INFO--USSR
SOURCE--VINODEL. VINOGRAD. SSSR 1970, 30(1), 7-11
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--AGRICULTURE CROP, FOOD ANALYSIS, BENZENE DERIVATIVE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/0659
CIRC ACCESSION NO--AP0117884
STEP NO--UR/0505/70/030/001/0007/0011
UNCLASSIFIED

2/2 010
 CIRC ACCESSION NO--AP0117884 UNCLASSIFIED PROCESSING DATE--16OCT70
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POLYPHENOLIC COMPLEX OF RIPE
 GRAPES WAS COMPOSED OF SIMPLE CATECHOLS. THE AMT. OF GALLATES WAS
 INSIGNIFICANT. THE PROPOSED METHOD FOR THE DETN. OF TOTAL POLYPHENOLIC
 SUBSTANCES IN GRAPES (TANNINS FROM SEEDS) WAS RELIABLE AND MINIMIZED THE
 OXIDN. OF PHENOLS. GRAPE SEEDS (150 G) WERE PULVERIZED, MIXED WITH
 DISTD. WATER (370 ML), AND EXTD. ON A WATER BATH AT 80DEGREES FOR 5 MIN
 AFTER ADDING 10PERCENT K SUB2 S SUB2 O SUB5 TO PREVENT OXIDN. TANNINS
 WERE THEN TAKEN UP IN ETUAC, DRIED WITH NA SUB2 SO SUB4, AND CONCD.
 UNDER VACUUM AT 35-40DEGREES. TO PPT. THE TANNINS, CHCL SUB3 WAS ADDED.
 THE PPT. WAS SEPD. ON A SINTERED GLASS FILTER AND WASHED WITH CHCL SUB3.
 FACILITY: INST. BIOKHM. IM. BAKHA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.327.534.3:62-752.3:535.231.4

BRODSKIY, YU. D., VALUYSKIY, P. G., SHCHERBINA, D. M.

"Radiation Stabilizer for High-Pressure Xenon Tubes"

Tr. metrol. in-tov SSSR (Works of the Metrology Institutes of the USSR), 1971, No. 110(170), pp 101-107 (from Referativnyy Zhurnal, Metrologiya i izmeritel'naya tekhnika, No 11, Nov 71, Abstract No 11.32.1928)

Translation: A radiation stabilizer for ultrahigh pressure dc xenon arc tubes is described that consists of a multiphase rectifier, a reference light source, a comparison circuit, and a tube current regulator connected in parallel to a ballast resistance. The stabilizer provides a constant operating regime with an accuracy of at least 0.5% under a change in the supply voltage in the range $\pm 10\%$. The time constant of the stabilizer is no more than 0.15 sec. 2 ill., 2 ref.

1/1

USSR

UDC 535.89:621.385.127.8:621.3.083.342

SHCHERBINA, D. M., KHIMCHENKO, V. P., VALUYSKIY, P. G.

"A Xenon Lamp as a Point Source"

Tr. Khar'kov NII Metrol. [Works of Khar'kov Scientific Research Institute for Metrology], Moscow, 1970, pp 34-38, (Translated from Referativnyy Zhurnal, Metrologiya i Izmeritel'naya Tekhnika, 1972, No 5, Abstract No 5.52.1480).

Translation: Xenon lamps are made in the form of tubular high pressure lamps (type VD-T) with a long arc (125-175 mm) and spherical superhigh pressure lamps (type SVD) with a short arc (1.5-5.0 mm). The former have a brightness of 0.2 ksb and a light output of 35 l/w, the power of water cooled (VD-T-V) lamps reaches 10 kw, while the latter have a brightness of about 60 ksb, a light output on the order of 40 l/w, and powers of various types varying from 200 w to 5 kw (the most powerful lamps are water cooled, their brightness reaching 200 ksb). Type VD lamps, due to their high surface and comparatively low brightness, can be used for illumination. Type SVD lamps represent a valuable, near-point light source, with spectrum and brightness similar to that of the sun.

1/1

USSR

UDC 616.12-073.75

1
YANUSHKEVICHUS, Z. I., VITENSHTEYNAS, G. A., PRANEVICHYUS, A. A., VALUZHIS, K. K.,
and YUKNELIS, L. V., Chair of Hospital Therapy, Kaunas Medical Institute

"A Method for Continuous Recording of an Amplified EKG"

Moscow, Meditsinskaya Tekhnika, No 5, Sep/Oct 70, pp 54-55

Abstract: A description is given of a method for direct recording of an amplified EKG by means of an electrocardiograph designed at the Kaunas Medical Institute. The amplification is effected by application of the feedback principle. The diagnostic advantages of an amplified EKG were established on the basis of an examination of 400 persons, including those in good health as well as those with hypertension, chronic coronary insufficiency resulting from atherosclerosis, and indistinct heart rhythm. Comparative analysis of conventional and amplified electrocardiograms showed that the new method for recording the EKG permits additional information to be obtained in the diagnosis of a number of heart diseases.

1/1

USSR

UDC 661.665.1

SAKSONOV, V. P., RAUTBORT, A. YE., VAL'YANO, G. YE., SEREBRENNIKOVA, V. YE.,
and PROKHOROVA, I. V., Institute of High Temperatures, Academy of Sciences
USSR

"Filamentary Crystals in SiC-Base Ceramics Containing Chromium and Titanium"

Moscow, Neorganicheskiye Materialy, No 3, Mar 73, pp 492-493

Abstract: The structural features of filamentary crystals formed in SiC-base ceramics containing Cr and Ti were examined by x-ray diffraction and electron microscopy. The thickness of filamentary crystals fluctuated between 40 Å and 1000 Å, filaments 300-360 Å wide were most often encountered and, in many cases, their length exceeded 4 Å (their exact length could not be determined). In certain cases the crystal did not fully adhere to the basic phase but was found in the channel. Calculations based on measurements of channel and filament width showed that the difference between channel and filament radii is significantly greater than the minimum dimension (24 Å). This verifies that some filamentary crystals can be found in channels. On the basis of analysis of calculations from microdiffraction photographs, it was possible to identify the filaments as single crystals. Diffraction pictures obtained for ceramics
1/2

USSR

SAMSONOV, V. P., et al., Neorganicheskiye Materialy, No 3, Mar 73, pp 492-493

with Cr and Ti were analogous. Indicated differences obtained in this work of filamentary single crystals of α - Si_3N_4 from earlier known filaments makes it possible to hypothesize that the first ones are formed by a different method than the second which, strictly speaking, cannot be called filaments. Six bibliographic references.

2/2

- 15 -

1/2 016 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--FIFTY YEARS OF DEVELOPMENT IN THE FIELD OF SALT DEPOSITS
GEOCHEMISTRY IN THE USSR. -U-
AUTHOR--VALVASHKO, M.G. ✓
COUNTRY OF INFO--USSR
SOURCE--BERGAKADEMIE 1970, 22(1), 7-14
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--GEOCHEMISTRY, SALT WATER, LAKE, EVAPORATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--1994/1739 STEP NO--GE/0108/70/022/001/0007/0014
CIRC ACCESSION NO--AP0115568
UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0115568
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A LECTURE, REVIEWING THE HISTORY
OF PROCESSES AND EQUIL. INVOLVED IN THE RECENT AND CONTEMPORARY EVAPN.
OF SALT LAKES IN THE USSR. FACILITY: GEOCHEM. GEOL. FAK
FACILITY: M. V. LOMONOSOV UNIV., MOSCOW, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--ZUNUVTU
TITLE--AUTOMATIC RECORDING OF BREAKDOWN DURING THE IONIZATION AGING OF
POLYMER FILMS -U-
AUTHOR--(04)--DOMKIN, V.S., KOTLOV, YU.V., VALYASHOV, V.V., VARENTOVA, N.V.
COUNTRY OF INFO--USSR
SOURCE--ZAVOD, LAB, 1970, 36(5), 566-7
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, METHODS AND EQUIPMENT
TOPIC TAGS--MATERIAL TESTING EQUIPMENT, IONIZATION, PLASTIC FILM,
ELECTRODE POTENTIAL, AUTOMATIC EQUIPMENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1972 STEP NO--UR/0032/70/036/005/0566/0567
CIRC ACCESSION NO--AP0132233
UNCLASSIFIED

272 017

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132233

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TESTED FILM IS CLAMPED TO A GROUND METAL PLATE AND 30-35 ELECTRODES ARE CONTACTED WITH ITS SURFACE. THE ELEC. POTENTIAL OF THE ELECTRODES IS INCREASED AT THE SAME RATE UNTIL THE FILM UNDER THE ELECTRODE(S) BECOMES COND. (IONIZED). AN APP. IS DESCRIBED AND SHOWN IN A DIAGRAM WHICH RECORDS THE VOLTAGE AT WHICH THE ELEC. FILM BREAKDOWN TAKES PLACE UNDER EACH OF THE ELECTRODES. FACILITY: VLADIMIR. NAUCH.-ISSLED. INST. SIN. SMOL, VLADIMIR, USSR.

UNCLASSIFIED

USSR

UDC 547.26.118.07

SHAROV, V. N., KLEBANSKIY, A. L., BARTASHEV, V. A., VALYASNIKOVA,
T. D., GRINBLAT, M. P., SOKOLOV, YE. I., TSEKRETELI, I. YU.

"A Method of Producing Organofluoride Cyclic Esters of Alkyl
(aryl)phosphonic Acids"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrazttsy, Tovarnyye
Znaki, No 17, 1970, Author's Certificate No 270732, filed 25 Mar
69, p 23

Abstract: This Author's Certificate introduces a method of pro-
ducing organofluoride cyclic esters of alkyl(aryl)phosphonic acids.
As a distinguishing feature of the patent, alkyl(aryl)dihalophos-
phonates are interacted with polyfluoroalkylene glycols in the
presence of a tertiary amine in an inert solvent.

1/1

USSR

UDC: 53.07/08:539.216.2:621.372.852

VALYUKENAS, V. I., IVASHKA, V. P., and KIBARTAS, V. V.

"Determining the Surface Resistivity of Fine Metallic Layers
by Measuring the Transmission Factor in the UHF Range"

Vil'nyus, Litovskiy Fizicheskiy Sbornik, vol 12, No 2, 1972,
pp 297-303

Abstract: A method is proposed for determining the surface conductivity or resistivity of fine metal layers from the change in absolute value of the transmission factor, with the properties of the substrate for those layers and the reflection from a matched load taken into account. The theory of the method is developed and the equipment used for the determinations is described. Frequency of the uhf waves used was 9150 MHz, and the layers were of aluminum and chromium, 40-700 Å thick. A block diagram of the equipment is given and the results of the measurements for various types of the Al and Cr specimens are presented in tabular form. The authors, associated with the V. Kapsukas State University at Vil'nyus, express their gratitude to V. Tsukerman for participating in the measurements.

1/1

Infrared Rays

USSR

UDC: 621.372.8:535

~~VALYUS, N. A.~~, ANANINA, T. V.

"On the Possibility of Using Succinite to Make Waveguides for the Infrared Region of the Spectrum"

V sb. Radioelektronika optich. diapazona (Radio Electronics in the Optical Band--collection of works), Moscow, 1970(1971), pp 53-55 (from RZh-Radiotekhnika, No 3, Mar 72, Abstract No 3B201)

Translation: The paper presents the results of an experimental study of the transparency of natural amber. The research was done with spectrometers in the 5.4-6.6 μ band. One illustration. V. S.

1/1

USSR

UDC: 521.372.837(088.8)

VAMBERSKIY, M. V., ABRAMOV, V. P., MAKAROV, V. K.

"A Ferrite Strip Switch"

USSR Author's Certificate No 250232, filed 19 May 67, published 16 Jan 70 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7B183 P)

Translation: The proposed switch is based on a five-arm strip circulator with one input arm and four output arms. One pair of output arms is isolated, and the other pair divides the input signal into two parts with a phase shift of 180° in one arm as compared with the other. In the ferrite discs of conventional Y-circulators, the distribution of the electric and azimuthally magnetized fields is such that in addition to the field minimum lying in the region of the isolated arm, there is another minimum diametrically opposite from the first. Diametrically opposite from the output arm is an electric field with the same value as the field in this arm, which is in phase with the input value of the field and 180° out of phase with the output value. This makes it possible to connect two additional arms to the conventional Y-circulator at an angle of 60° to the axis of the input arm. This design extends the functional possibilities of the channel. Two illustrations. A. K.

1/1

- 39 -

1/2 007 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--RELIABILITY OF PASSIVE RELAYING -U-
AUTHOR--VAMPOLSKIY, V.G. V
COUNTRY OF INFO--USSR
SOURCE--MCSCCW, RADIOTEKNIKA, VOL 25, NO 2, 1970, PP 5-10
DATE PUBLISHED-----70
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.
TOPIC TAGS--ELECTRIC RELAY, ELECTRIC EQUIPMENT MAINTENANCE, ICE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3C06/0106 STEP NO--UR/0103/70/025/002/0005/0010
CIRC ACCESSION NO--AP0134001
UNCLASSIFIED

2/2 007

CIRC ACCESSION NO--AP0134001

UNCLASSIFIED

PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MOST EXPEDIENT TYPE OF PASSIVE RELAYING IS A REFLECTION ARRAY IN THE FORM OF A SINGLE LINE OF DOUBLE LINE WIRE NET. SUCH A RELAY ARRAY WAS FIRST SUGGESTED IN USSR. THE EFFECT OF WIND AND ICING UPON THE PERFORMANCE OF SUCH A PASSIVE RELAY ARRAY WERE EXAMINED. IT WAS SHOWN THAT THE EFFECT OF WIND ON THE PERFORMANCE OF A PASSIVE ARRAY IS RATHER INSIGNIFICANT, BUT THE EFFECT OF BOTH COAXIAL AND PLANE ICING ON THE PASSIVE ARRAY IS APPRECIABLE. THE INVESTIGATION HAS SHOWN THAT FOR HIGHER RELIABILITY OF PERFORMANCE UNDER THE CONDITIONS OF HEAVY ICING, THE SPACING OF WIRES IN THE ARRAY NET SHOULD BE ABOUT TWO THIRDS TO HALF THE DISTANCE OF THE SPACING FOR CONDITIONS FREE OF ICING. IT WAS ALSO SHOWN THAT TO IMPROVE THE STABILITY OF OPERATION OF A PASSIVE ARRAY UNDER HEAVY ICING CONDITIONS IT IS BEST TO SET UP THE ONELINE ARRAY AT AN ANGLE OF 45 DEGREES TO THE VECTOR E OF THE INCIDENT FIELD.

UNCLASSIFIED

USSR

UDC 541.121.536.7

UDOVSKIY, A. L., VAMBERSKIY, YU. V., and IVANOV, O. S., Institute of Metallurgy
Imeni A. A. Baykov, Academy of Sciences USSR, Moscow

"Calculation of the Concentration Functions of the Excessive Entropy and
Enthalpy of Mixing U-Mo Systems at 1100°K"

Moscow, Doklady Akademii Nauk SSSR, Vol 209, No 6, Apr 73, pp 1377-1380

Abstract: Calculation of the concentration function of excessive entropy and enthalpy of mixing has been carried out for the U-Mo system at 1100°K, and compared with experimental data, looking for the properties of atomic interaction of the component in these solid solutions. The unordered solid solution can be viewed as a solid body changing its physical properties in a continuous fashion through the entire range of concentrations and temperatures of the existence of the solution. It can also be viewed as an additive system consisting of noninteracting subsystems. Formulas were developed and curves obtained from them compared in a qualitative fashion with experimental data. It is noteworthy that the calculation was carried out without using any thermodynamic data for cumulative entropy or for the enthalpy of mixing solid solutions.

1/1

USSR

UDC 537.533.8

✓
VALYGINA, K. V., LEONT'YEV, YE. A., OBIDIN, G. I., and PERESLENI, A.A.

"Some Methodological Problems of Electronmicroscopic Investigation of Emissive Coatings"

Dokl. Nauchno-tekhn. konferentsii po itogam nauchno-issled, rabot za 1968-1969 gg, 1970. Mosk. Energ. In-t Sekts. Elektron tekhn. Podseks. Elektron priborov (Report of the Scientific-Technical Conference on the Results of Scientific-Research Work During 1968-1969, 1970. Moscow Power Engineering Institute, Electronic Technology Section, Electron Devices Subsection), Moscow, 1969, pp 89-97) (from RZh-Elektronika i yeye primeneniye, No 1, Jan 70, Abstract 1A171)

Translation: Methods are considered for obtaining a replica from the surface of Malter emitters of KCl and MgO and from magnesium oxide cathodes. Because of the impossibility of a transfer of porous films of KCl through air, formation of the replica is made directly in the device in which the emitter was prepared and investigated. As replica-forming material, SiO₂, SiO and combined SiO-C films were used. The 1/2

USSR

VALYGINA, K. V., et al., Report of the Scientific-Technical Conference on the Results of Scientific-Research Work During 1968-1969, 1970. Moscow Power Engineering Institute, Electronic Technology Section, Electron Devices Subsection, Moscow, 1969, pp 89-97

method of their deposition is described and the subsequent preparation of the replica. For investigation of the structure of porous films on MgO, carbon replicas were utilized, strengthened by surface films of Cu or Al. Three references. N. S.

2/2

1/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THE CYTOCHEMISTRY OF HERPETIC INFECTION OF FIBROBLAST CULTURE OF
HUMAN EMBRYO -U-
AUTHOR--(03)-BIKBULATOV, R.M., MALINOVSKAYA, V.V., VANAG, K.A.
COUNTRY OF INFO--USSR
SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 49,
NR 6, PP 110-113
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--EMBRYOLOGY, HUMAN PHYSIOLOGY, FETUS, DNA, RNA, HERPETIC VIRUS,
GLYCOGEN, CELL PHYSIOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0574 STEP NO--UR/0219/70/049/006/0110/0113
CIRC ACCESSION NO--AP0131197
UNCLASSIFIED

2/2 020

CIRC ACCESSION NO--AP0131197

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CYTOCHEMICAL STUDY OF HERPETIC INFECTION OF A CELLULAR CULTURE OF HUMAN EMBRYO FIBROBLASTS HAS SHOWN AN INTENSIFIED UNA ACTIVITY IN THE NUCLEI OF INFECTED CELLS, AN INCREASED QUANTITY OF RNA IN THE NUCLEI AT EARLY STAGES OF THE INFECTION AND A DECREASED RNA ACTIVITY IN THE CYTOPLASM IN THE RESIDUAL PHASE. THE INFECTION WAS ACCOMPANIED BY A REDUCED QUANTITY OF GLYCOGEN IN THE CYTOPLASM OF CELLS AND THEIR PROGRESSIVE FATTY INFILTRATION.

FACILITY: D. I. IVANOVSKY INSTITUTE OF VIROLOGY OF THE ACADEMY OF MEDICAL SCIENCES OF THE USSR, MOSCOW.

UNCLASSIFIED

USSR

UDC 621.391

VANAGAS, G. M., PRANEVICHYUS, G. I.

"Effect of Phase Discontinuity of FM Signal on the Freedom From Interference of a Zero Intersection Detector"

V sb. Radioelektronika (Radio Electronics--Collection of Works), T. 5, Kaunas, 1969, pp 217-220 (from RZh-Elektrosvyaz', No 6, June 1970, Abstract No 6.64.250)

Translation: In the work an expression is obtained specifying the response of an FM signal with phase discontinuity at the output of an ideal band-pass filter. The results are cited of a computation of the freedom from interference of a zero intersections detector, taking into account the transient process with various values of the phase discontinuity. It is established that the transient process, because of the phase discontinuity, negligibly effects the freedom from interference of the zero intersections detector.

1/1

- 116 -

1/2 020

UNCLASSIFIED

PROCESSING DATE--09OCT70

TITLE--POTENTIAL ENERGY SPLITTING ON THE SUPERMULTIPLY QUANTUM NUMBERS,
SU(3) INVARIANT INTERACTIONS, AND THE TOTAL ORBITAL MOMENTUM OF THE

AUTHOR--(02)--VANAGAS, V., KALINAUSKAS, R.



COUNTRY OF INFO--USSR

SOURCE--YAD. FIZ. 1970, 11(1), 63-75

DATE PUBLISHED--70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--NUCLEAR SPIN, PARITY PRINCIPLE, MULTIPLY SPLITTING, EXCITED
NUCLEUS, POTENTIAL ENERGY, NUCLEAR MODEL, ORBIT MOMENTUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1980/0169

STEP NO--UR/0367/70/011/001/0063/0075

CIRC ACCESSION NO--AP0048461

UNCLASSIFIED

2/2 020

CIRC ACCESSION NO--AP0048461

UNCLASSIFIED

PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APPROX. DEPENDENCE OF THE POTENTIAL ENERGY OF THE NUCLEUS ON THE QUANTUM NOS. OF THE TOTAL SPIN S, ISOSPIN T, AND ORBITAL MOMENTUM L IS GIVEN FOR THE SUPERMULTIPLY MODEL. GENERAL PROPERTIES ARE DISCUSSED OF THE SU(3) INVARIANT ENERGY, WITH EXCHANGES, CALCD. IN THE UNITARY SYMMETRY APPROXN., IN THE CASE OF GROUND AND OSCILLARY EXCITED STATES, OF P AND SD NUCLEI. SOME EXAMPLES OF P NUCLEI ARE PRESENTED TO SHOW THE DEPENDENCE OF THE POSITION OF ANOMALOUS PARITY ENERGY LEVELS ON THE QUANTUM NOS. OF THE UNITARY SCHEME MODEL. CHARACTERISTICS EXAMPLES ARE PRESENTED OF THE EXPTL. OBSD. SPLITTING ON L FOR NORMAL AND ANOMALOUS PARITY LEVELS OF P AND SD NUCLEI. THE POSSIBLE INTERPRETATION OF THIS SPLITTING IS DISCUSSED. THE RELATION BETWEEN THE POTENTIAL ENERGY AND GENERAL ORBITAL MOMENT OF THE L NUCLEUS IS INVESTIGATED, AS WELL AS SOME OF THE CHARACTERISTICS OF CERTAIN SU(3) INVARIANT SPECTRA. SPLITTING AT L IS SIMILAR TO THAT OF THE LEVELS OF THE NEG. PARITY OF THE P NUCLEI. FACILITY: INST. FIZ. MAT., VILNIUS, USSR.

UNCLASSIFIED

USSR

UDC 539.19

VANAGAS, V. V., KALINAUSKAS, R. K.

"Genealogical Breakdown of Orbital Wave Functions of Orthogonal Schemes and the Method of K-Harmonics and Factorization of Genealogical Coefficients"

Lit. fiz. sb. (Lithuanian Physics Collection), 1972, Vol. 12, No. 2, pp 217-228 (from RZh-Fizika, No 10, Oct 72, Abstract No 10D99)

Translation: Formulas are given for the factorization of orbital genealogical coefficients of the wave function of a unitary scheme. The genealogical breakdown of the orbital wave function of the orthogonal scheme and the method of K-harmonics is given along with factored expressions for the genealogical coefficients of these expansions. A transformation relating the radial wave functions of multidimensional oscillators with Jacobi polynomials is obtained. Authors abstract.

1/1

1/2 007
UNCLASSIFIED
TITLE--SYNTHESIS OF 2,CINNAMOYLPERINAPHTHO,1,3,INDANDIONES -U- PROCESSING DATE--11SEP70
AUTHOR--GEYTA, L., VANAGS, G.
COUNTRY OF INFO--USSR
SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, KIM. SER. 1970; (1), 96-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMICAL SYNTHESIS, AROMATIC KETONE, BROMINATED ORGANIC
COMPOUND, AROMATIC ALDEHYDE, CONDENSATION REACTION, BENZENE DERIVATIVE,
ETHYLENE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1987/1063 STEP NO--UR/0464/70/000/001/0096/0098
CIRC ACCESSION NO--AP0104461
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC-ACCESSION NO--AP0104461

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MICROFICHE OF ABSTRACT CONTAINS GRAPHIC INFORMATION. THE TITLE COMPS. (I) WERE PREPD. BY CONDENSING 2, ACETYLPERINAPHTHO, 1,3, INDANDIONE (II) WITH AROMATIC ALDEHYDES. THUS, A MIXT. OF II, ALDEHYDE, AND ET SUB2 NH WAS REFLUXED 15-45 MIN, DILD. WITH ETOH, AND REFLUXED 20-30 MIN TO GIVE I. (R PRIME1, F PRIME2, M.P., AND PERCENT YIELD GIVEN): H, H, 198-200DEGREES, 77; H, OME, 237-8DEGREES, 60; OME, OME, 200-2DEGREES, 62; OCH SUB2 O, 232-4DEGREES, 40. REFLUXING A MIXT. OF II WITH N-BROMOSUCCINIMIDE (NBS) IN CHCL SUB3 OR I WITH NBS-C SUB6 H SUB6 GAVE III (R AND M.P. GIVEN): ME, 145-6DEGREES; CH:CHPH, 120-2DEGREES; 3,4, METHYLENEDIOXYCINAMOYL, 143-5DEGREES.

UNCLASSIFIED

Analytical Chemistry

USSR

UDC 543.42'213

MOROSHKINA, T. M., and VANAYEVA, L. V., Leningrad State University imeni
A. A. Zhdanov, Leningrad

"Chemico-Spectrographic Determination of Niobium, Tantalum, Zirconium, Hafnium,
and Beryllium in Minerals and Ores"

Moscow, Zhurnal Analiticheskoy Khimii, Vol 25, No 12, Dec 70, pp 2,374-2,376

Abstract: On decomposition of 0.2 g samples of minerals (biotites, muscovites, garnet) or silica ores with HF + H₂SO₄, enrichment of Ta, Be, Nb, Zr, and Hf was carried out by adsorption on powdered pyrogallol-CH₂O resin of acidic condensation. Upon addition of complexon III (di-Na salt of E.D.T.A.) to the H₂SO₄ solution to eliminate interference by admixtures, the solution was shaken with the resin first at pH 4 and then at pH 8.5-8.7 after being brought to these pH values by the addition of NH₄OH. After ashing of the resin that contained the adsorbed elements to be determined, these elements were determined spectrographically in the ash at 3163.40, 2714.67, 3138.66, 3012.89, and 3131.07 Å for Nb, Ta, Zr, Hf, and Be, respectively. By applying this method, minimum amounts of 3 X 10⁻⁴% Ta and 2 - 5 X 10⁻⁵% Nb, Zr, Be, and Hf could be determined with an error of the order of 20-26%. In determinations
1/2

USSR

MOROSHKINA, T. M., and VANAYEVA, L. V., Zhurnal Analiticheskoy Khimii, Vol 25,
No 12, Dec 70, pp 2,374-2,376

carried out on 1 g samples, the precision of the method was greater by a
factor of 5.

2/2

- 10 -

USSR

UDC: 550.834

BRISKIN, S. N., VANDER, S. S., DOLINSKIY, Yu. D., KUZNETSOV, L. Sh., POLYAKOV, K. K., Special Design Office of the Ministry of Geology of the USSR

"Nuclear-Precession Magnetometer"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrabotsy, Tovarnyye Znaki, No 13, May 72, Author's Certificate No 335649, Division G, filed 23 Mar 70, published 11 Apr 72, p 195

Translation: This Author's Certificate introduces: 1. A nuclear-precession magnetometer with digital registration. The instrument contains a magnetically sensitive pickup, coincidence gates, a master frequency oscillator, a count time shaper and a counter. As a distinguishing feature of the patent, the operational reliability of the device is improved by connecting the coincidence gate to the set terminals of the least significant digit counter, and by connecting the input of the least significant digit counter through a second coincidence gate to the count time shaper and to a counter with variable scaling factor, which is connected to the master frequency oscillator and to the most significant digits of a standard frequency period counter which is connected through a third coincidence gate to the standard

1/2

USSR

BRISKIN, S. N. et al., USSR Author's Certificate No. 335649

frequency oscillator. A second input of the third coincidence gate is connected through a nuclear precession period counter to the magnetically sensitive pickup. 2. A modification of this magnetometer distinguished by the fact that the counter with variable scaling factor is connected in addition to the least significant digits of the standard frequency period counter.

2/2

- 126 -

1/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--DIFFUSION OF PHOSPHORUS INTO VANADIUM AND ZIRCONIUM -U-

AUTHOR--(02)--VANDYSHEV, B.A., PANOV, A.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NUAK SSSR, METAL. 1970, (2), 231-4

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHYSICAL-DIFFUSION, PHOSPHORUS, VANADIUM, ZIRCONIUM,
RADIOMETRIC ANALYSIS, ISOTOPE, REACTION MECHANISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1998/1160

STEP NO--UR/0370/70/000/002/0231/0234

CIRC ACCESSION NO--AP0121719

UNCLASSIFIED

2/2 019

CIRC ACCESSION NO--AP0121719
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. THE DIFFUSION MOBILITY OF P IN V AND ZR WAS STUDIED. THE DIFFUSION IN V WAS INVESTIGATED AT 1200-1450DEGREES AND THAT IN ZR AT 950-1200DEGREES. THE DIFFUSION CONSTS. WERE MEASURED WITH THE AID OF THE LAYER RADIOMETRIC ANAL. BY USING THE ISOTOPE PRIME32 P, CAPABLE OF BETA RADIATION WITH A MAX. SPECTRAL ENERGY OF 1.7 MEV. THE DIFFUSION OF P IN V IS PRINCIPALLY OF THE BULK DIFFUSION TYPE, WHEREAS IN THE CASE OF ZR, THE BOUNDARY DIFFUSION ALSO TAKES PLACE. AN INTERSTITIAL DIFFUSION MECHANISM OF P IN V IS PRESENTED.

UNCLASSIFIED

USSR

UDC: 621.396.69:621.314.2(088.8)

SHUL'ZHENKO, V. V., VANDYSHEV, M. S., GRISHIN, A. G.

"A High-Frequency Choke"

USSR Author's Certificate No 252429, filed 10 Apr 68, published 6 Feb 70
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V388 F)

Translation: A high-frequency choke is proposed which consists of several turns of coaxial cable on a toroidal ferrite core. To extend the band of the resonance curve for the choke, this core is made up of several ferrite rings which are in contact with each other and differ in frequency dependence of permeability.

1/1

VANETSIAN, R. A.

Fenchikov, V. M., Shadrinov, O. A.	Application of the TRS-19 Piezoceramic for Ultrasonic Scanning of a Laser Beam	402
Vanetsian, R. A., Lebedeva, L. M., Sanyukin, N. I.	Rotation of the Lobes of the Reflection Pattern of Coherent Light on Rotation of the Reflecting Surfaces	408
Arsen'yan, T. I.	Study of the Statistical Properties of Varia- tions of the Laser Field Intensity on Propagation on a Ground Route	412
Arsen'yan, T. I., Samonov, A. A.	Analysis of Random Variations of the Laser Field Intensity in the High-Frequency Part of the Spectrum During Propagation in the Troposphere Study of the Passage of Phase Modulated and Amplitude Modulated Optical Band Signals Through the Atmosphere	420
Miljutin, Ye. P., Lobkovs, L. H., Lichinova, T. P., Chistyakov, A. B.	Experimental Study of Laser Beam Propagation in the Atmosphere	429
Lobkovs, L. H.	Power Fluctuations of Laser Radiation Caused by a Turbulent Atmosphere	433
Vlasov, G. I., Levin, I. H.	Laser Beam Videoinformation Transmission Range in an Aquatic Medium	443
Ganin, V. N., Kabanov, M. V.	Spatial and Time Characteristics of Atmospheric Noise in the Visible Range of the Spectrum ...	447
Vysotski, V. I., Khmalevich, S. S.	Holographic Recording Through Random Media ...	453
Senkovich, N. V., Lyubakov, Ye. I., Osipov, Yu. H.	Frequency Stabilization of Laser Emission by the Active Method with the Application of an Auxiliary Heterodyne	460
Yegorov, Yu. P., Petrov, A. B.	Experimental Measurement of the Natural Radia- tion Line Width of a Gas Laser with Coupled Types of Oscillations	464
Sagatov, E. A., Nazarov, A. U.	Correlation Analysis of the Coherence of Laser Emission	471
Sagatov, E. A., Nazarov, A. U.	Laser Noise During Operation of an Optical Quantum Amplifier	478

29

TECHNICAL TRANSLATION

Am9 / FSTC/T-23-2015-72

29 Nov 72

ENGLISH TITLE: PROBLEMS OF LASER BEAM DATA TRANSMISSION
PROCEEDINGS OF THE FIRST ALL-UNION CONFERENCE, KIEV,
SEPTEMBER 1968

FOREIGN TITLE: PROBLEMY PEREDACHI INFORMATSII LAZERNYH IZLUCHENIEM

AUTHOR: I. A. DERJUGIN, ET AL.

SOURCE: KIEV ORDER OF LENIN STATE UNIVERSITY
IMENT T.G. SCHEVCHENKO

Translated for FSTC by ACSL

NOTICE

The contents of this publication have been translated as presented in the original text. No attempt has been made to verify the accuracy of any statement contained herein. This translation is published with a minimum of copy editing and graphics preparation in order to expedite the dissemination of information.

Approved for public release. Distribution unlimited.

- Mill Page -

163

Pharmacology and Toxicology

USSR

UDC 617-089.521.65

YANEVSKIY, V. I., KARGAPOLOV, L. N., Chair of Anesthesiology and Reanimation,
Order of Lenin Institute of Advanced Training of Physicians imeni S. M. Kirov,
Leningrad

"Experience in the Application of the New Soviet Myorelaxant Dioxonium in Anesthesi-
ological Practice"

Leningrad, Vestnik Khirurgii imeni I. I. Grekova, Vol 104, No 6, Jun 70, pp 74-77

Abstract: Dioxonium is the diiodomethylate of 1,2-bis-(4'-piperidinomethyl-1,3'-
dioxolanil-2')-ethane. In experiments it exhibited a very high activity in block-
ing N-cholinoreactive systems of skeletal muscles. As distinguished from d-
tubocurarine, dioxonium did not produce histamine-like effects. The drug was
applied in doses of 0.03-0.2 mg/kg in combination with anesthesia in surgery of
the heart, lungs, esophagus, stomach, etc. performed on 141 patients. It produced
a temporary depolarizing neuromuscular block which after 5-6 min changed into a pro-
longed non-depolarizing effect. Intravenous injection of novocain prolonged the
depolarizing phase. Proserine counteracted the residual non-depolarizing block.
The length of action of dioxonium increased from 50-60 min in a dose of 0.05-0.06
mg/kg to 160-180 min in a dose of 0.15-0.20 mg/kg. The blood circulation was not
affected. Blood tests showed that dioxonium lowered the activity of specific
cholinesterase, and did not affect that of nonspecific cholinesterase.

1/1

USSR

VANETSOV, L. A. and ZHIRNOV, A. F. (Moscow)

UDC 539.4

"The Expediency of Using Titanium Pipelines in the Hydraulic Systems of Gas Turbine Engines"

Kiev, Problemy Prochnosti, No 11, Nov 73, pp 85-86

Abstract: In an investigation of the possibility of replacing stainless steel as the material for the pipelines of gas turbine engines by titanium alloys and decreasing the wall thickness of stainless steel pipelines, consideration was given to the influence of the replacement of stainless steel by titanium alloys upon the strength of the pipelines at equal load conditions in the case of the constant and variable loads to which the pipelines of gas turbine engines are subjected. Formulas were derived, on the basis of which it was found that a decrease in the wall thickness of a steel pipe has virtually no effect upon the strain imposed on the pipelines, and that the replacement of steel pipes by titanium ones decreases the strain by a factor of more than three at the same temperature influences, and by approximately 70% at identical installation inaccuracies.

Comparative calculation of steel and titanium pipelines has shown that the level of dynamic stresses is 60-80% less in titanium pipelines. When steel

1/2

USSR

VANETSOV, L. A. and ZHIRNOV, A. F., Problemy Prochnosti, No 11, Nov 73, pp 85-86

pipelines with thinner walls are introduced, stresses originate which are approximately 15% greater than in ordinary pipes. The conclusion is drawn that the replacement of steel pipes by titanium ones is advantageous not only with respect to weight, but also due to the decrease of tension under identical conditions of static and dynamic loads.

4 figures. 1 table.

2/2

- 113 -

USSR

✓
UDC 616.988.25-022.395.42-07:/616.28-003.1+
616.281-008.6

VANEYEVA, G. G., Chair of Nervous Diseases, Perm Medical Institute
"Auditory and Vestibular Functions in Tickborne Encephalitis"

Moscow, Zhurnal Nevropatologii i Psikhiiatrii imeni S. S. Korsakov,
No 1, 1970, pp 48-51

Abstract: Hearing and vestibular disorders were found in almost all 30 patients with acute tickborne encephalitis regardless of the clinical form of the disease. In most cases the shifts were temporary, but in some cases, especially in patients with the focal form, they persisted for 6-12 months after clinical recovery. Hearing disturbances included tinnitis, decreased perception of whispered sounds, and a shortening of bone conduction. Among the vestibular disorders were spontaneous horizontal and horizontal-rotatory nystagmus and abnormal increase of decrease in reflex excitability. Impairment of auditory and vestibular functions may have diagnostic value in the asymptomatic and febrile forms of tickborne encephalitis.

1/1

Acc. Nr.: **AP0028453**

Ref. Code: UR 0246

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhatrii, 1970,
Vol 70, Nr 1, pp 48-51

THE STATE OF THE HEARING AND VESTIBULAR FUNCTIONS
IN TICK-BORNE ENCEPHALITIS

Vaneyeva, G. G.

The author reports data concerning the study of hearing and vestibular functions in 30 patients with tick-borne encephalitis in the acute period of the disease. In 10 of them these studies were repeated after a year. During the acute phase disorders of hearing were depicted in 13 cases. Irrespective of the form and severity of the disease usually there were complaints of tinnitus and ringing in the ears, a reduction in the perception of whispering voice, a shortening of bone conduction. In an audiometric study there was a decrease of air and bone conduction. Vestibular disturbances were seen in 26 cases. All the patients complained of verti-

1/2

REEL/FRAME
19671920

G

AP0028453

go, especially intensified during movements and sometimes accompanied by nausea. It was possible to depict unsteadiness in Romberg's pose, a spontaneous horizontal and horizontal-rotatory nistagmus. The optokinetic nistagmus was changed in 4 cases. In 4 other cases there was an asymmetrical change of vestibular reactions, in 8 -- a decrease of the reflex excitation, in 6 -- a change in the formula of experimental nistagmus of the supratentorial type with an appearance of expressed vegetative-vascular disturbances. The described changes during the disease diminished and in some patients at the time of discharge disappeared altogether. In most of the cases, however, these changes were seen in repeated studies. In a years time following dismission, 10 of these patients were seen again. In 4 of them the cochleo-vestibular changes remained. Thus, the changes of hearing and vestibular functions in tick-borne encephalitis are to be seen in the majority of the cases, whereas the changes seem to be quite stable.

2/2

MB

19671921

USSR

VAN FO FY, G. A., and MUROYED, A. P.

"Stress Distribution Around Recesses in Multisandwich Rotational Shells"

V sb. Armirovan. materialy i konstruktsei iz nich (Reinforced Materials and Structures Made of Them -- collection of works), Kiev, "Nauk. dumka," 1970, pp 79-106 (from RZh-Mekhanika, No 1, Jan 71, Abstract No 1V119 by Ya. F. Kayuk)

Translation: The authors derive systems of resolvents for multisandwich shells weakened by holes. Two cases are considered: a) a rigid three-sandwich shell; b) multisandwich shells composed of an arbitrary number of orthotropic layers of varying thicknesses. In case (a) isotropy of all three layers is assumed, with supporting layers having the same physicomachanical characteristics; linear thickness displacement law is also assumed in all layers. If three stress functions are introduced in a specific manner, it is possible to write a system of four partial equations to describe the stress and strain field in the shell. The fundamental equations and the solutions are described in detail for the case of a spherical shell with circular and elliptical holes. In case (b) it is assumed that the hypothesis of a normal

1/2

USSR

VAN FO FY, G. A., and MUKOYED, A. P., V sb. Armirovan, materialy i konstruktssii iz nikh, Kiev, "Nauk. dumka," 1970, pp 79-106

element for the shell sandwich as a whole is valid. Given certain relations between mechanical characteristics, a system of complex stress equations for sandwich-type shells is obtained. In the case of cylindrical shallow shells of revolution these systems can be reduced to resolvents. For rotational shells with a hole at the pole the method of asymptotic integration of fundamental equations is suggested. Values of stress concentration factors are calculated for a spherical ellipsoidal shell with a circular hole at the pole. Bibliography with 20 titles.

2/2

USSR

VANFUCH, Yu. I., DANILONKO, V. N.

"Efficiency of Steel Beyond Elasticity Limit Under Repeated Loadings"

Seysmostoyk. Str-vo i Sroyit. Materialy [Earthquake-resistant Structures and Construction Materials -- Collection of Works], Ashkhabad. Ylym Press, 1972, pp 39-43, (Translated from Referativnyy Zhurnal, Mekhanika, No 10, 1972, Abstract No 10 V1266 by A. P. Gusenkov).

Translation: Individual experiments are performed with repeated loading on type A-1 reinforcing steel. Tests involved extension to rupture with 1-, 2-, 30, 40, 5- and 10-times unloading. It was shown that unloading does not influence the deformation diagram or strength and plasticity characteristics. A number of specimens were also tested in extension-compression with a loading cycle providing approximate equality of areas of hysteresis loop in the direction of extension and the direction of compression. The work of cyclical rupture is estimated, and the quasi-static nature of rupture of specimens at the selected cyclical loading levels is noted.

1/1

USSR

SKLYAREVICH, A. N., VANCE, NI. I.

UDC 577.4

"Structural Method of Constructing the Function for Checking a Combination Automaton"

V sb. Tekhn. diagnostika (Technical Diagnostics. — collection of works), Moscow, Nauka Press, 1972, pp 191-194 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V429)

No abstract

1/1

USSR

VANGE, Kh, L.

UDC: 8.74

"Construction of a Diagnostic Series of Tests for a Combination Automaton"

Riga, Vopr. sinteza konechn. avtomatov--sbornik (Problems of Synthesizing Finite Automata--collection of works), "Zinatne", 1972, pp 117-130 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V610 [authors résumé])

Translation: A method is proposed for constructing a diagnostic sequence of tests for a multilevel combination automaton. The sequence is constructed on the basis of a verification sequence obtained by the method of gluing. It is shown that in the gluing process the verification sequence may be converted into a diagnostic sequence by using rules of substitution of test components.

1/1

- 44 -

USSR

ULC 615.9

VANGELI, V. S., Candidate of Medical Sciences

"The Role of the Rural Feldsher in Preventing Poisoning with Pesticides"

Kishinev, Zdravookhraneniye, No 3, May/June 70, pp 52-56

Abstract: The amounts of various pesticides used in agriculture are large and always increasing. These dangerous chemicals must be used with caution, and in strict accordance with the regulations established by the USSR Chief Sanitary Physician on 10 May 1965. The rural feldsher has an important role to play in cooperating with local medical and sanitary stations to prevent poisoning of crops, farm animals, and humans with pesticides. It is his duty to make sure that pesticides are properly transported and stored, and that they are applied at the proper time, in the right amounts, and by the specified methods. Personnel working with pesticides must undergo semiannual medical checkups; if there are any contraindications, the workers must be transferred to different jobs. Special protective suits must be worn when working with pesticides, and these suits must be maintained in perfect condition. People living in areas where pesticides are to be spread must be informed about this in advance. Special precautions must be taken not to contaminate water sources and air. No pesticides may be sprayed on crops used as fodder, or the chemicals will accumulate in meat products. Similar precautions

1/2

- 67 -

USSR

VANGELI, V. S., Zdravookhraneniye, No 3, May/June 70, pp 52-56

must be observed in private orchards and vineyards. Rural feldshers must attend brush-up courses and then disseminate the knowledge among the rural population.

2/2

USSR

UDC 621.791.3.01:669.14.018.44

GRUZDEV, B. L. and KOZLOV, Candidates of Technical Sciences, and VANGNITS, I. S., and SYRESKIN, V. A., Engineers, Ufa Aviation Institute imeni S. Ordzhonikidze

"Technology of Brazing Alloy ZhS6K with Braze VPr 11"

Moscow, Svarochnoye Proizvodstvo, No 2, Feb 74, pp 34-35

Abstract: Since alloy ZhS6K has unsatisfactory weldability, a study was made as to how well it can be brazed in a vacuum using braze alloy VPr 11. The effectiveness of diffusion interaction can be increased by increasing the time of the parts at the brazing temperature. However this brazing method cannot be recommended since undesirable structural transformations can occur in the base metal during an extended time at 1150° C which lowers strength properties. Moreover, long contact of the braze alloy with the alloy causes erosion of the alloy. These problems can be overcome by heat treating the braze joint at 1050° C. Best short-time strength can be achieved by heat treating at 1050° C for extended periods. Tests showed that seam metal strength, after heat treating for 2, 4, and 8 hours, was 30.4, 34.3, and 37.3 kgf/mm², respectively, as compared to 27.9 kgf/mm² for the non-heat

1/2

USSR

GRUZDEV, B. L., and KOSLOV, et al., Svarochnoye Proizvodstvo, No 2, Feb 74,
pp 34-35

treated braze joint. Gap size between the parts being brazed was also
critical with the best results achieved for a gap dimension of 0.05-0.06
mm. Four figures, three bibliographic references.

2/2

USSR

✓
UDC: 621.791.89:669.15-194

SHAYDER, B.I., VERBITSKIY, V.G., and VANGNITS, I.S.

"The Use of Microplasma Welding to Correct Defects in Stainless Steel Units"

Kiev, Avtomaticheskaya Svarka, No 5, May 1970, pp 71-72

Abstract: Defects (e.g., blowholes and pores) in stainless steel units are usually corrected by argon arc welding. However this method has several shortcomings, the most serious being the presence of a large warmup zone which leads to warping of the metal, solder fusion, and structural changes. Microwave welding does not have these disadvantages. A study was made of correcting defects in stainless steel by using microplasma welding. Equipment developed at the Institute of Electric Welding imeni Ye. O. Paton was used in the study. An A-1255 power supply device was used with a welding torch operating on 0.5-10 ampere DC current under continuous arc conditions. Argon was used as the plasma-forming gas; the shielding gas was a mixture of argon and hydrogen (96% Ar - 4% H₂). After welding the units were subjected to repeated airtightness tests under a dynamic pressure of 20 atmospheres. No leaks were detected in the welded sites. Metallographic investigations indicated that the fused metal was dense, and cracks, pores, and other defects were absent. The depth of fusion was up to 0.8 mm. No structural changes were detected at the fused metal boundary. The reverse side of the welded

1/2

USSR

SHNAYDER, B.I., et al, Avtomaticheskaya Svarka, No 5, May 1970, pp 71-72

walls had an iridescent tarnish corresponding to a heating temperature of about 700°C. The state of brazed joints in the weld zone was satisfied, and solder fusion or oxidation was not detected. The welded surface does not require mechanical dressing.

2/2

USSR

UDC 577.37

VANIN, A. F., KASPAROV, A. A., and MATKHEANOV, E. I., Institute of Chemical Physics, Academy of Sciences USSR, and First Moscow Medical Institute, Moscow

"Changes in the EPR Spectra of the Mouse Liver Upon Poisoning With Boric Acid and Carbon Tetrachloride"

Moscow, Biofizika, Vol 16, No 3, May/June 71, pp 472-475

Abstract: It had been established in earlier work by the authors (Biofizika, Vol 15, p 547, 1970) that following poisoning of mice with elemental B, preparations from the liver of the animals showed a pronounced drop in the intensity of the EPR signal associated with complexes of heme Fe that are located in the microsome respiration chain. Similar changes on poisoning with boric acid were not observed, because this substance had been eliminated from the organism at the time when the EPR spectrum was determined. It was found in the present investigation that changes in the EPR spectrum similar to those resulting from poisoning with B and observed several days later developed 2-6 hrs after administration of boric acid. The intensity of the EPR signal corresponding to the non-heme Fe complex located in the mitochondria was also lowered, but the principal effect was on the heme-Fe complex. The effect on

1/2

- 2 -

USSR

VANIN, A. F., et al., *Biofizika*, Vol 16, No 3, May/June 71, pp 472-475

the EPR spectrum, which was determined on liver samples at 77°K, was unspecific; it was also observed after poisoning of the animals with CCl₄. Besides the reduction of the intensity of EPR signals corresponding to heme and non-heme Fe complexes after poisoning, new signals developed in the spectrum which could be ascribed to nitrosyl complexes of heme and non-heme Fe on the basis of available data on the EPR spectra of these complexes.

2/2

Oncology

USSR

VANIN, A. F., VAKHNINA, L. V., and CHETVERIKOV, A. G., Institute of Chemical Physics, Academy of Sciences USSR

"The Problem of a New Type of Electron Paramagnetic Resonance Signal Detected in Cancerous Tissues"

Moscow, Biofizika, Vol 15, No 6, Nov/Dec 70, pp 1044-1051

Abstract: Kidney, liver, intestinal, muscle, and other tissues of mice, rats, rabbits, frogs, and cats, as well as yeast cells were exposed to a variety of physical factors (heat, cold) and chemical agents (potassium ethyl- or heptylxanthogenate, sodium dodecylsulfate or potassium oleate in physiological saline). The parameters of the electron paramagnetic resonance signals (one with $g = 2.03$ and another with a triplet structure and $g = 2.007$) coincided completely with the EPR signals detected in cancerous tissues. As the tissues became necrotic, the 2.03 signal appeared and then gradually gave way to the signal with the triplet structure. This pattern is also characteristic of carcinogenesis, where the 2.03 signal arises in the early stage but diminishes as the tumor develops and the 2.007 signal intensifies. Some hypotheses are advanced on the physico-chemical nature of the centers responsible for the two signals.

1/1

1/2 011 UNCLASSIFIED PROCESSING DATE--20NOV70
 TITLE--FUNCTIONAL CHANGES OF NONHEME IRON COMPLEXES IN YEAST CELLS -U-
 AUTHOR--(03)--LISOVSKAYA, I.L., VANIN, A.F., BLYUMENFELD, L.A.
 COUNTRY OF INFO--USSR
 SOURCE--BIOFIZIKA 1970, 15(2), 308-11
 DATE PUBLISHED-----70
 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--YEAST, IRON, MITOCHONDRION, PHOSPHORYLATION
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--3007/0270 STEP NO--UR/0217/70/015/002/0308/0311
 CIRC ACCESSION NO--AP0139766
 UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0135766

ABSTRACT/EXTRACT--(U) GP-C-

ABSTRACT. THE RESPIRATORY CONTROL VALUE OF SACCHAROMYCES CEREVISIAE WAS CORRELATED WITH CHANGES IN THE ESR SIGNAL WHILE TREATING THE CELLS WITH NO. SINCE NITROSYL COMPLEXES OF NONHEME FE ARE RESPONSIBLE FOR THE SIGNAL, IT IS SUGGESTED THAT NONHEME FE IS PRESENT IN DIFFERENT STATES IN YEAST MITOCHONDRIA CAPABLE AND INCAPABLE OF OXIDATIVE PHOSPHORYLATION.

FACILITY: INST. CHEM. PHYS.,

MOSCOW, USSR.

UNCLASSIFIED

011
 UNCLASSIFIED
 TITLE--MODELING OF NONHEM IRON COMPLEXES IN BIOLOGICAL MATERIAL -U-
 PROCESSING DATE--20NOV70
 AUTHOR--(02)-BURBAYEV, C.SH., VANIN, A.F.
 COUNTRY OF INFO--USSR
 SOURCE--DOKL. AKAJ. NAUK SSSR 1970, 190(6), 1348-50
 DATE PUBLISHED--70
 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--EPR SPECTRUM, IRON, COENZYME, PROTEIN, MITOCHONDRION
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3005/1673
 CIRC ACCESSION NO--AT0133578
 STEP NO--UR/0020/70/190/006/1348/1350
 UNCLASSIFIED

2/2 011

CIRC ACCESSION NO--AT0133578

UNCLASSIFIED

PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EPR SPECTRA WERE REPORTED FOR BIOL. COMPOD. CONTG. NONHEME-Fe, SUCH AS NADH REDUCTASE COENZYME, FE-BEARING PROTEIN FROM MITOCHONDRIA, FERREDOXIN FROM SPINACH, AND THE COMPLEX OF Fe WITH THE SYSTEM OF CYSTEAMINE PERSULFIDE (BAYER, ET AL., 1969). FROM THE EXISTING CONCEPTS OF THE MODELS CAPABLE OF DESCRIBING THE BEHAVIOR OF Fe IN SUCH SUBSTANCES AND FROM THE CURRENTLY REPORTED EPR SPECTRA, IT WAS CONCLUDED THAT YET ANOTHER MODEL WAS NEEDED: THAT OF A NITROSYL COMPLEX OF Fe(II) WITH CYSTEINE IN AN ALK. AQ. MEDIUM. THIS COMPLEX HAS G SUB1 EQUALS 2.02, G SUB2 EQUALS 1.99, G SUB3 EQUALS 1.97 AND MEAN G EQUALS 1.99. IT MAY BE RECORDED ONLY AT LOW TEMP. THE SUBSTANCE WAS PREPD. BY MIXING FeSO SUB4.7H SUB2 O AND CYSTEINE IN O-FREE WATER, ADJUSTING PH TO 10-11.5 WITH KOH AND PASSING NO INTO THIS FOR 3-5 MIN; THEN A FLUSHING WITH AIR WAS INITIATED AND MAINTAINED THROUGH THE EXPT. FROZEN WITH LIQ. N, SUCH A SOLN. GAVE THE SIGNAL WITH G EQUALS 2.03, TYPICAL OF THE NITROSYL COMPLEX OF Fe WITH CYSTEINE. CHANGES IN THE SPECTRUM WITH ADDNS. OF Fe WERE SHOWN. THE COMPLEX INTERMEDIATE SPECTRUM WAS A COMPOSITE OF 3 SPECTRA, DESCRIBED IN DETAIL.

FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 528.715:551.507.354

VANIN, A. G., and TANKUS, A. Yu.

"The Use of the KA-26 Helicopter for Large-Scale Photographic Aerial Survey"

Moscow, Geodeziya i Kartografiya, No 6, 1972, pp 35-40

Abstract: Problems of the use of the re-equipped KA-26 helicopter for large-scale photographic aerial survey were investigated jointly by the Central Scientific Research Institute of Geodesy, Aerial Survey and Cartography and the State Scientific Research Institute of Civil Aviation in the year 1971, using the experiences of the Polish People's Republic in performing analogous tasks. The experimental photographic aerial survey was conducted from 50-1000 m altitudes on a flat country area with 5-20 m soil elevations. The survey results are qualitatively evaluated by reference to tabulated data. It is concluded that the use of KA-26 helicopter for aerial photographing is most expedient by establishing and renewal of topographic maps of 1:5000 to 1:500 scales on lots of up to 20 km². The application of the stereotopographical survey method for small areas with the use of aerial photographs made from KA-26 helicopter makes it possible to reduce by 30-50% the work and money inputs if compared with ground methods. One illustr., two tables.

1/1

USSR

UDC 612.766.1:622.272.3

RESHETYUK, A. L., ~~VANTIN, L. G.~~, ONISHCHENKO, L. P., TARASENKO, V. T., and VASYL'KOV, V. M., Donetsk Institute of the Work Hygiene and Occupational Diseases

"Physiological Function Stress of Miners' Organisms Under Conditions of the Deep Donbas Mines"

Kiev, Fiziologichnyy Zhurnal, Vol 18, No 4, Jul/Aug 72, pp 547-553

Abstract: Physiological and ergometric studies were carried out with experienced miners (15 years) during a full shift of manual work, or a combination of manual and machine work under different microclimatic conditions (70-95% humidity, 22-31°C). High temperature of deep mines (29-31°C) reduces the work productivity and increases the functional stresses of miners. A danger of heat stroke was observed with workers who worked previously in not too deep mines, and also in experienced miners after vacations. Adaptation of miners to working conditions at 29-31°C lasts for 1 month, and readaptation, for 15 days. After adaptation to heat the work productivity increases and the functional stress of the whole organism decreases, along with physiological effectiveness. In order to avoid chronic overstresses of miners in deep mines a vacation every 6 months is recommended. Some formulas are presented for description of the physiological conditions of miners and for proper scheduling of their work and rest periods.

1/1

USSR

VANIN, R. S., OSTROUKHOV, M. Ya.

"Influence of Calcium Fluoride on Desulfuration of Cast Iron by High Magnesium Slags"

Moscow, Izv. Vuzov, Chernaya Metallurgiya, No 2, 1971, p 39-41.

Abstract: The influence of the addition of CaF_2 (1-4%) on the desulfurating ability of synthetic high magnesium (20-30% MgO) slags with $\text{CaO}:\text{SiO}_2=0.6$ is studied. It is found that calcium fluoride improves the distribution factor of sulfur between high magnesium melt and cast iron. The highest desulfuration indicator is produced by a slag with 25% MgO and 2% CaF_2 with $\text{CaO}:\text{SiO}_2=0.6-0.8$.

1/1

- 81 -

1/2 02?

TITLE--NITRIDING OF STEEL WITH THE NITROGEN OF THE AIR IN THE PLASMA OF AN
 ARC DISCHARGE -U-
 AUTHOR--VANIN, V.S. ✓

COUNTRY OF INFO--USSR

SOURCE--FIZ. KHIM. MEKHAN. MAT., 1970, 6, (2), 111-112

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--NITRIDATION, STEEL HARDENING, ARC DISCHARGE, PLASMA PINCH,
 DISCHARGE PLASMA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1803

CIRC ACCESSION NO--AP0129171

STEP NO--UR/0369/70/006/002/0111/0112

UNCLASSIFIED

272 027

CIRC ACCESSION NO--AP0129171

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. THE POSSIBILITY OF NITRIDING STEEL SURFACES BY USING THE N OF THE AIR UNDER ARI DISCHARGE CONDITIONS IS DEMONSTRATED EXPERIMENTALLY. NITRIDING TAKES PLACE DIRECTLY IN THE PLASMA OF THE ARC DISCHARGE COLUMN. DUE TO THE HIGH G.D. IN THE COLUMN OF THE ARC DISCHARGE, TOGETHER WITH THE EXISTENCE OF A "PINCH" EFFECT, THE ACCESS OF AIR TO THE ARC REGION IS RESTRICTED; HENCE NOT ONLY THE O BUT ALSO THE N IS SUBJECT TO DISSOCIATION. THE STEEL IS NEVERTHELESS MAINLY SATURATED WITH N, THE LAYER OF OXIDES BEING OF NEGLIGIBLE THICKNESS.

UNCLASSIFIED

Waveguides

USSR

VANIN, V. V., KOROVYANSKIY, N. N.

UDC 621.374.5(088.8)

"Delay Time Temperature Stabilization Procedure"

USSR Author's Certificate No 275116, Filed 8 Aug 66, Published 6 Oct 70 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4G266P)

Translation: A procedure is proposed for temperature stabilization of the delay time in a delay line made of coils with cylindrical ferrite cores and capacitors filled with epoxy compound. In order to eliminate the variation of the thermal coefficient of the coil inductance under the effect of the epoxy compound with variation of temperature, the coils are located in a housing made of insulating material the inside cavity of which is filled together with the coils with thiocol compound.

Acc. Nr:

AP0034768

V

Ref. Code: UR 0241

PRIMARY SOURCE: Meditsinskaya Radiologiya, 1970, Vol 15,
Nr 1, pp 60-67

A UNIT FOR THE WHOLE-BODY RADIOMETRY

V. Ya. Vanin, M. P. Gerasimova, V. P. Stolyarov

Summary

Parameters of a spectrometer at different stages of its exploitation designed at the Institute of biophysics for measuring radiation emitted in man and consisting of a detector with a NaI(Tl) crystal and a protective steel chamber are presented. Spectrometric resolution of the unit in 662 keV γ -line for a fathom filled with a Cs¹³⁷ solution and a NaY(TE) crystal of 203 mm diameter and 102 mm high was 10.4%. During 15-minute long measurement the sensitivity of the spectrometer enables it to determine the presence of 0.6×10^{-12} C of Cs in the organism with an accuracy better than 68%. Parameters of spectrometers of radiation emitted by man now employed in the USSR are cited.

1/1

REEL/FRAME
19711478

22.
02

USSR

YANKE, V.A., ZAYTSEV, A.A., KRYUKOV, S.P., LOFUKHIN, V.M. [Moscow State University]

UDC 621.375.126

"Problems Of Designing A Narrow-Band Tunable DC-Pumped Amplifier"
Izv. VUZ: Radiofizika, Vol XV, No 2, Feb 1972, pp 291-299

Abstract: The possibility is discussed of designing a narrow-band tunable amplifier-filter on the basis of a diptron [diftron]. The scheme of this unit contains a ferromagnetic tip, an electron gun, an input distribution coupler, an amplification zone, an output distribution coupler, and a coupler. The dispersion characteristics of waves of the electron flow and delay system are presented. The advisability is shown of using a single-row comb as an input coupler of the amplifier. The parameters are numerically calculated. A graph is shown of the dispersion characteristics of a zero-order space harmonic and the distribution of high-frequency electrical fields of a single-row plane comb. The scheme is presented of an amplifier-filter with a combined delay system and one of the variants of such a system. The physical processes during interaction between the electron beam with a delay system and the dc-pumped field are considered. Numerical estimates are given. 5 fig. 9 ref. Received by editor, 26 Apr 1971.

1/1

USSR

UDC 621.375.126

YANKE, V. A., ZAYTSEV, A. A., KRYUKOV, S. P., LOPUKHIN, V. M., Moscow State University

"Problems of Designing a Narrow Band Tunable Electrostatic Amplifier"

Gor'kiy, *Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika*, Vol XV, No 2, 1972, pp 291-299

Abstract: The possibility of building a narrow band tunable filter amplifier based on a diffron was analyzed. The expediency of using a single-row comb as the input and output couplers of the amplifier was demonstrated, and numerical calculations of the parameters were performed. A study was made of the physical processes in the presence of combined interaction of an electron flux with a decelerating system and an electrostatic pumping field. The possibility of partial or complete combination of individual sections of the amplifier into a single system was demonstrated, and numerical estimates are presented. The pass band of the investigated amplifier with a single combined system for $\lambda = 8$ cm, $\Delta f \approx 120$ megahertz with a separate input coupler was 60 megahertz. The ordinary filter amplifier with separate input and output couplers has a band of $\Delta f \approx 40$ megahertz.

1/1

USSR

UDC 621.396.67.001.5

BELDOVSKIY, V. A., VINOGRADOV, B. A., VAN'KIN, A. S., ZVEREV, S. B.,
BUTKEVICH, A. O., MURAV'YEV, Yu. K.

"A Method of Plotting the Radiation Patterns of Antennas"

USSR Author's Certificate No 284070, filed 10 Apr 69, published 4 Jan 71
(from RZh-Radiotekhnika, No 11, Nov 71, Abstract No 11B112 P)

Translation: The proposed method enables automatic recording of a radiation pattern in 10-20 s on a CRT with image persistence and photographing in case of necessity. The antenna to be studied is mounted on a rotating platform and used as a receiving antenna. The emf from the antenna is sent to the receiver with linear amplification of the range to be studied. The output voltage of the receiver is sent through a current collector to the input of a discrete conversion module which generates a sequence of pulses which are delayed with respect to the trigger pulse. This pulse train is then sent to the electrode of a CRT with circular scan. Scanning of the CRT is triggered by pulses with a prf which ensures the accuracy required in reproduction of the radiation pattern. When the scan

1/2

USSR

BELDOVSKIY, V. A., et al., USSR Author's Certificate No 284070, filed 10 Apr 69, published 4 Jan 71 (from RZh-Radiotekhnika, No 11, Nov 71, Abstract No 11B112 P)

rotation is synchronized with antenna rotation by means of a primary pickup circuit and an amplifier for the signal from the drive tracking system, the radiation pattern is reproduced on the screen of the CRT with a high accuracy determined by the linearity of the image stages. A calibrated mark unit shapes marking pulses for every five degrees of rotation of the antenna, and for controllable intervals with respect to field strength. The method appreciably simplifies the process of taking the radiation patterns of antennas; it can be used in synthesizing an antenna, and also in determining the optimum arrangement of transmitting and reception units for zones with a minimum noise level. Two illustrations.

A. K.

2/2

072 030

UNCLASSIFIED

TITLE--PREPARATION OF FILMS OF ORGANIC MATERIALS AS ANALYZERS FOR THE PROCESSING DATE--13NOV70

ULTRASOFT X RAY SPECTRAL REGION -U-

AUTHOR--(05)-SOLOVYEV, A.M., CHERNOBEREZHSKIY, YU.M., VANKLOVICH, A.I.,

KUZMINA, T.A., TOPORKOV, S.A.

COUNTRY OF INFO--USSR

SOURCE--VESTN. LEMINGRAD. UNIV., FIZ., KHIM. 1970, (1), 163-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS, MATERIALS

TOPIC TAGS--BARIUM COMPOUND, LEAD COMPOUND, X RAY SPECTRUM, STEARIC ACID, PLASTIC FILM, BORON, CARBON, NITROGEN, MICROCHEMICAL ANALYSIS EQUIPMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1125

CIRC ACCESSION NO--AP0128552

STEP NO--UR/0054/70/000/001/0163/0165

UNCLASSIFIED

030
 CIRC ACCESSION NO--AP0128552 UNCLASSIFIED
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY USING THE LANGMUIR BLODGETT
 METHOD, THE TITLE FILM ANALYZERS HAVE BEEN PREPD. ON THE BASIS OF BA AND
 PB SALTS OF STEARIC, BENENIC, AND LIGNOCERIC ACIDS, WITH INTERPLANAR
 DISTANCES OF 50, 60, AND 65 ANGSTROM, RESP. THE SAMPLES OBTAINED HAVE
 GOOD REGISTRATION FOR K ALPHA LINES OF B, C, AND N; THIS ALLOWS THE
 MICROANAL. OF THE ELEMENTS WITH HIGH SENSITIVITY.

PROCESSING DATE--L3M0V70

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EFFECT OF MICROGEL ON THE MECHANICAL PROPERTIES OF CIS,POLYISOPRENE
AND BUTADIENE,STYRENE RUBBERS -U-
AUTHOR-(04)-KULEZNEV, V.N., ELKINA, I.A., VANKOVA, L.N., DOGADKIN, B.A.
COUNTRY OF INFO--USSR
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3, PP 381-387 ✓
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--GEL, POLYMER RHEOLOGY, POLYISOPRENE, BUTADIENE STYRENE RESIN,
VULCANIZATE, MECHANICAL STRENGTH, RUBBER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1591 STEP NO--UR/0069/70/032/003/0381/0387
CIRC ACCESSION NO--AP0125213
UNCLASSIFIED

2/2 021

CIRC ACCESSIGN NO--AP0125213

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF MICROGEL ON THE RHEOLOGICAL PROPERTIES OF CIS,POLYISOPRENE AND BUTADIENE,SYTRENE RUBBERS HAS BEEN STUDIED. MICROGEL ENHANCES THE EFFECTIVE VISCOSITY OF MIXES, REDUCES THEIR SHRINKAGE ON DISCHARGE FROM THE VISCOMETER CAPILLARY, INCREASES THE CRITICAL STRESS OF ELASTIC TURBULENCE AND HAS LITTLE EFFECT ON THE STRENGTH PROPERTIES OF VULCANIZATES, PROVIDED THE VULCANIZING SYSTEM IS PROPERLY CHOSEN. FACILITY: INSTITUT TONKOY KHIMICHESKOY TEKHNOLOGII IM. M. V. LOMONOSOVA MOSCOW.

UNCLASSIFIED

Power, Engine, Turbine, Pump

USSR

UDC: 621.225

~~VAN'KOVICH, R. I.~~, VAN'KOVICH, V. I., Physicomechanical Institute of the Academy of Sciences of the Ukrainian SSR

"A Hydraulic or Pneumatic Unilateral-Acting Motor"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 12, Apr 72, Author's Certificate No 334411, Division F, filed 17 Jun 70, published 30 Mar 72, p 140

Translation: This Author's Certificate introduces a hydraulic or pneumatic unilateral-action motor made in the form of a tubular elastic reinforced shell with rigid end sections. As a distinguishing feature of the patent, the working stroke is increased by making a spindle-shaped shell with longitudinal corrugations and reinforced with longitudinal flexible elements accommodated in the troughs of the corrugations and securely fastened in the end sections of the shell.



1/1

Power, Engine, Turbine, Pump

USSR

UDC: 621.225

VAN'KOVICH, R. I., ~~VAN'KOVICH, V. I.~~, Physicomechanical Institute of the Academy of Sciences of the Ukrainian SSR

"A Hydraulic or Pneumatic Unilateral-Acting Motor"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 12, Apr 72, Author's Certificate No 334411, Division F, filed 17 Jun 70, published 30 Mar 72, p 140

Translation: This Author's Certificate introduces a hydraulic or pneumatic unilateral-action motor made in the form of a tubular elastic reinforced shell with rigid end sections. As a distinguishing feature of the patent, the working stroke is increased by making a spindle-shaped shell with longitudinal corrugations and reinforced with longitudinal flexible elements accommodated in the troughs of the corrugations and securely fastened in the end sections of the shell.



1/1

Electrochemistry

USSR

UDC 541.15

MAL'TSEV, YE. I., and VANNIKOV, A. V., Institute of Electrochemistry,
Academy of Sciences USSR

"Effect of Temperature on the Properties of Solvated Electrons in Irradiated
Hexamethylphosphotriamide"

Moscow, Khimiya Vyoskikh Energiy, Vol 7, No 4, Jul-Aug 73, pp 382-383

Abstract: With increased temperature the spectrum of e^-_{solv} in hexamethylphosphotriamide [HMPT] shifts toward the IR. The effect of temperature on the shortlived absorption spectrum of the pairs $[Me^+ \dots e^-_2]$ agrees with the data obtained from metal solutions in HMPT when the temperature lowering favored the formation of pairs. With increasing temperature the spectrum changes. Since the bond energy of shortlived pairs $[Me^+ \dots e^-_2]$ is low, increasing the temperature by $t = 15^\circ$ will shift the equilibrium



1/2

USSR

MAL'TSEV, YE. I., and VANNIKOV, A. V., Khimiya Vysokikh Energiy, Vol 7, No 4, Jul-Aug 73, pp 382-383

to the left. The movement of e^-_{solv} in HMPT is not due to simple diffusion. The activation energy of e^-_{solv} was found to be 1.6 Kcal per mole, in agreement with other literature data.

2/2

- 3 -

USSR

MERKULOV, Ye. I., ~~VANNIKOV, A. V.~~, MIKHAYLOV, I. D.

"Investigation of Hole Mobility in Polydiphenylacetylene Films"

Leningrad, Fizika Tverdogo Tela, Vol 13, No 9, Sep 71, pp 2679-2682

Abstract: The authors study the drift mobility of holes in films of polydiphenylacetylene precipitated from a benzene solution and in films of modified polydiphenylacetylene made by repeated high-temperature sublimation (up to 500°C) of polydiphenylacetylene on a heated (to 250°C) substrate with gold or aluminum electrode at a pressure of 10^{-5} mm Hg. The specimens were made in the form of sandwich cells. Film thickness was 1-10 μ , and the working area of the electrode was 0.1 cm². Mobility was determined by measuring the transit time T_t of nonequilibrium carriers excited by a low-energy (3-10 keV) electron pulse with a duration of 0.2-1 μ s. To prevent secondary effects, the time constant of the specimen was chosen to keep the resistance and capacitance greater than T_t . It is shown that the low mobility of charge carriers in polydiphenylacetylene ($2 \cdot 10^{-4}$ cm²/V·s) is due to the presence of a large number of small traps.

1/2

USSR

MERKULOV, Ye. I. et al., Fizika Tverdogo Tela, Vol 13, No 9, Sep 71,
pp 2679-2682

The mobility in sublimated polydiphenylacetylene, where there is an appreciable reduction in the number of traps, is $0.3 \text{ cm}^2/\text{V}\cdot\text{s}$. It is shown that the band concept can be applied to study of the motion of charge carriers in organic polymer semiconductors. Two figures, bibliography of five titles.

2/2

- 49 -

Acc. Nr.

AP0100303

Abstracting Service:
CHEMICAL ABST.

Ref. Code
UR0181

115522a Surface state of anthracene single crystals studied with low-energy electron pulses. Vannikov, A. V.; Lozhkin, B. T.; Boguslavskii, L. I. (Inst. Elektrokhim., Moscow, USSR). *Fiz. Tverd. Tela* 1970, 12(2), 557-61 (Russ). Hole and electron motion in single-crystal anthracene was studied with low energy electron impulses (3-15 keV). Electron life times and trap concns. were estd. as a function of the distance to the crystal surface. At the surface, a sharp decrease in the lifetimes and an increase in trap concn. relative to the bulk values, were obsd. The energy necessary for free carrier pair formation is ~100 eV in the bulk of the specimen and ~100 eV in the near-surface layer. Increase in the free carrier generation efficiency at the surface is related to the presence of a strong elec. field detd. by a space charge of trapped electrons which increases the probability of disson. of bound electron-hole pairs into free carriers.

REEL/FRA
19841706

5X

7

1/2 015
UNCLASSIFIED
TITLE--AMPHOTERIC ION EXCHANGE RESINS -U- PROCESSING DATE--04DEC70
AUTHOR--(02)-DINABURG, V.A., VANSHEYDT, A.A. ✓
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 152,737
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--26JAN70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ION EXCHANGE RESIN, CHEMICAL PATENT, PYRIDINE, VINYL COMPOUND,
BENZENE DERIVATIVE, SULFATE, TRIAZINE, POLYMER CROSSLINKING, RADICAL
POLYMERIZATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/0834 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0136268
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0136268

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN AMPHOTERIC ION EXCHANGE RESIN IS PREPD. BY COPOLYMG. 2,METHYL,5,VINYLPYRIDINE WITH K P,VINYL, BENZENE SULFATE WITH A CROSSLINKING AGENT, HEXAHYDRO,1,3,5,TRIACRYLOYL, 2,TRIZAINE, IN THE PRESENCE OF INITIATORS OF FREE RADICAL POLYMN.

UNCLASSIFIED

USSR

UDC 595.771

VANSULIN, S. A., Leningrad Sanitary Epidemiological Station

"Aspects of the Ecology of *Culex pipiens molestus* Forsk. under Leningrad Conditions"

Leningrad, Parazitologiya, Vol 5, Vyp No 4, Jul/Aug 71, pp 361-363

Abstract: Results are reported of observations made in the development of *Culex pipiens molestus* Forsk. mosquitoes at normal and elevated temperatures. The mosquitoes were observed in Leningrad first in 1946. Since then the elimination of these insects has become a serious problem. Consequently, the ecology of the insects had to be studied and data were collected in 1968-1970. Intensive hatching of *C. p. molestus* was discovered in many basements during winter. The water temperature in a third of the basements in which the mosquitos hatched was 5-10°C, the water pH was 7.5 to 8.5 and the oxidizability was 25-45 mg/liter O₂, with cases in which it exceeded 100 mg/liter O₂. It was found that the larvae died after 48 hours in water of pH 6, after 5 days in water of pH 10, and after 12 hours in water of pH 11. Laboratory tests indicated that temperatures of more than 20°C were most favorable for the development of *C.p. molestus*, but females endured for 2 hours freezing temperatures to -10 to -12°C and could still lay
1/2

USSR

VANSULIN, S. A., Parazitologiya, Vol 5, Vyp No 4, Jul/Aug 71, pp 361-363

their eggs normally after warming. The eggs remained fertile for 11 days on a moist substrate and could endure freezing to -12°C for three hours. The resistance to freezing increases from generation to generation, and larvae as well as pupae withstand short-term freezing and develop normally after warming.

2/2

- 35 -

USSR

UDC 576.858.5

NOSACH, L. M., DYACHENKO, N. S., GUSHCHA, K. P., and ~~VANTSAK, N. P.~~, Institute of Microbiology and Virology, Academy of Sciences Ukrainian SSR

"Cytofluorometric Study of the Synthesis of Structural Proteins in Type 1 Adenovirus"

Kiev, Mikrobiologicheskii Zhurnal, Vol 32, No 4, Jul/aug 70, pp 463-466

Abstract: A cytofluorometric study was made of protein synthesis in type-1 adenovirus. Certain patterns were observed in the nature of the distribution and dynamics of accumulation of structural antigens. The intensity of luminescence of the hexone and peptone antigens increased markedly 16 and 19 hours after infection, respectively, reaching a peak 22 hours after infection.

1/1

- 17 -